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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR      | ATTORNEY DOCKET NO.    | CONFIRMATION NO. |
|--|-------------|---------------------------|------------------------|------------------|
| 10/657,863   | 09/09/2003  | Christopher Richard Doerr | Doerr 74 (LCNT/125663) | 2072             |
| 46363  | 7590        | 05/04/2005                | EXAMINER               |                  |
| MOSER, PATTERSON & SHERIDAN, LLP/<br>LUCENT TECHNOLOGIES, INC<br>595 SHREWSBURY AVENUE<br>SHREWSBURY, NJ 07702 |             |                           | DOAN, JENNIFER         |                  |
|  |             |                           | ART UNIT               | PAPER NUMBER     |
|  |             |                           | 2874                   |                  |

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |  |   |
|------------------------------|--------------------------------------|--|---|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/657,863 | <b>Applicant(s)</b><br>DOERR, CHRISTOPHER<br>RICHARD |   |
|                              | <b>Examiner</b><br>Jennifer Doan     | <b>Art Unit</b><br>2874                              |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-20 is/are rejected.
- 7) ☒ Claim(s) 11 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>030504</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 03/05/2004, have all been considered and made of record (note the attached copy of form PTO-1449).

### ***Drawings***

2. The drawings, filed on September 9, 2003, are accepted.

### ***Specification***

3. Claim 18 is objected to because of the following informalities:

Claim 18, line 2, "optical signal;" should be changed to "optical signal."

Appropriate correction is required.

Applicant's cooperation is requested in correcting any other errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 4-6, 8 and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Flanders (U.S. Patent 6,747,793).

With respect to claims 1, 8, 16, 17, 19 and 20, Flanders (figure 1) discloses a method and an apparatus of an optical monitor, comprising a tunable filter (138) for filtering a tapped portion of an optical signal at a predetermined frequency; a directing means (144) for directing the filtered optical signal back through the tunable filter (138) (column 1, line 11); and a single photodetector (140) for measuring the power of the filtered optical signal; Wherein the directing means substantially eliminates any polarization dependence of the tapped optical signal (Flanders' device is a switching matrix having little or no wavelength and polarization dependence).

With respect to claims 2 and 4, Flanders (figure 1) discloses an optical coupler for tapping a portion of the optical signal, wherein the filtered optical signal is directed back through the tunable filter (138) and the optical coupler by the directing means (144); wherein the optical coupler comprises a multi-section optical coupler (see figure 1).

With respect to claim 5, Flanders (figure 1) discloses the optical signal is filtered twice before the power is measured by the photodetector (140).

With respect to claim 6, Flanders (figure 1) discloses the directing means (144) comprises a mirror (column 4, lines 14-21).

With respect to claim 18, Flanders (figure 1) discloses a means for tapping a portion of the optical signal.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 3, 7, 9, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flanders (as cited above).

With respect to claims 3, 7, 9 and 10, Flanders substantially discloses all the limitations of the claimed invention except Flanders does not explicitly disclose the optical coupler having a 5/95 optical coupler and the directing means having a Sagnac loop, or a Faraday rotator mirror or a quarter-wave plate. However, a 5/95 optical coupler, Sagnac loop, Faraday rotator mirror or quarter-wave plate is all considered to be obvious, since the 5/95 optical coupler, Sagnac loop, Faraday rotator mirror and quarter-wave plate are commonly used in an optical communication system. In addition, these parts may be modified to employ in the device of Flanders (column 2, lines 30-39). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Flanders' device with disclose the optical coupler having a 5/95 optical coupler and the directing means having a Sagnac loop, or a Faraday rotator mirror or a quarter-wave plate for the purpose of obtaining a better performing of an optical monitor (switching and amplification).

With respect to claim 15, Flanders substantially discloses all the limitations of the claimed invention except Flanders does not explicitly disclose the tunable filter having an exponential distribution of free-spectral range from 200 to 12800 GHz.

However, the tunable filter having an exponential distribution of free-spectral range from 200 to 12800 GHz is considered to be obvious, since the applicant does not disclose criticality in the ranges claimed. Therefore, it would have been obvious to one

having ordinary skill in the art at the time the invention was made to modify the Flanders device with the tunable filter having an exponential distribution of free-spectral range from 200 to 12800 GHz for the purpose of obtaining a better performing of an optical monitor, and it also has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the ranges claimed. *In re Aller*, 105 USPQ 233 (see MPEP § 2144.05).

8. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flanders (as cited above) in view of Sivarajan et al. (U.S. Patent 5,233,453).

With respect to claims 12-14, Flanders substantially discloses all the limitations of the claimed invention except Flanders does not explicitly disclose the tunable filter having a plurality of coupled Mach-Zehnder Interferometer filters or seven coupled Mach-Zehnder Interferometer filters which include at least one phase shifter.

However, Sivarajan et al. (figure 1a) disclose the tunable filter (120) having a plurality of coupled Mach-Zehnder Interferometer filters (121) or seven coupled Mach-Zehnder Interferometer filters, which include at least one phase shifter. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Flanders device with the tunable filter having a plurality of coupled Mach-Zehnder Interferometer filters or seven coupled Mach-Zehnder Interferometer filters which include at least one phase shifter (accordance with the

teaching of Sivarajan et al.) for the purpose of providing and obtaining high speed optical tuning.

### ***Allowable Subject Matter***

9. Claims 11 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose or reasonably suggest the optical monitor further including a control unit for tuning the tunable filter across the band of the optical signal and recording the power measured by the photodetector as a function of the frequency of the tunable filter.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00am to 3:30pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in cursive script that reads "Jennifer Doan".

Jennifer Doan

Patent Examiner

April 29, 2005